

EXHIBIT N

```
                                datatypes
-- datatypes.sql

prompt You can specifiy selection criteria to filter the query results.
prompt You are prompted for your selections with the following format:
prompt
prompt  what value (datatype)>
prompt
prompt the datatypes specifiy the input that is required
prompt
=====
prompt . (%) string value required (enter either the wildcard % or string value)
prompt . (#) number value required
prompt . (1,2,3,4) specific number required (only the values listed are valid)
prompt . (MM/DD) date value required in format MM/DD (leading 0 optional)
prompt
```

```
                                event
prompt EVENT DIMENSION QUERIES
prompt =====
prompt 1    alarm level summary
prompt 2    alarm signature summary
prompt 3    alarm signature with string data summary
prompt
@event_help
@datatypes
prompt
prompt Please enter your desired value at the following prompts:
prompt
accept WHAT_Q prompt 'select query (1,2,3)>'
accept ORGANIZATION_NAME prompt 'organization name (%)>'
accept MIN_EVENT_DATE prompt 'minimum event date (MM/DD)>'
-- 1997 is hard coded for input brevity
@event&WHAT_Q &ORGANIZATION_NAME 1997/&MIN_EVENT_DATE
```

event1

```

-- event1.sql
-- shows: alarm level summary

--arg1: org_name
--arg2: min_event_date
--arg3: max_event_date

--sel1: org_name
--sel2: event_level
--sel3: from_state
--sel4: to_state
--sel5: count
--sel6: max(event_date_local)

@common

prompt event1: alarm level summary
prompt organization_name = &1
prompt minimum_event_date = &2

select
    substr(X2.org_name,1,15) "Org Name",
    X1.event_level "Level",
    substr(decode(X1.from_state,'I','IN','O','OUT'),1,3) "From",
    substr(decode(X1.to_state,'I','IN','O','OUT'),1,3) "To",
    count(*) "Count",
    substr(to_char(max(event_date_local),'MM:DD HH24:MI'),1,11) "Recent"
from
    nr_log_alarm X1,
    nr_orgs X2
where
    X1.event_date_local > to_date('&2','YYYY/MM/DD')
    and X1.org_id = X2.org_num
    and X2.org_name like '&1'
group by
    X2.org_name,
    X1.event_level,
    X1.from_state,
    X1.to_state
order by
    1 asc,
    2 desc,
    3 desc,
    4 asc,
    5 desc
;

```

event2

```
-- event2.sql
-- shows: alarm signature summary
```

```
--arg1: org_name
--arg2: min_event_date
--arg3: max_event_date
```

```
--sel1: org_name
--sel2: event_level
--sel3: from_state
--sel4: to_state
--sel5: sig_name
--sel6: count
--sel7: max(event_date_local)
```

```
@common
```

```
prompt event2: alarm signature summary
prompt organization = &1
prompt minimum_event_date = &2
```

```
select
    substr(X2.org_name,1,15) "Org Name",
    X1.event_level "Level",
    substr(decode(X1.from_state,'I',' IN','O',' OUT'),1,3) "From",
    substr(decode(X1.to_state,'I',' IN','O',' OUT'),1,3) "To",
    substr(X3.sig_name,1,15) "Signature",
    count(*) "Count",
    substr(to_char(max(event_date_local),'MM:DD HH24:MI'),1,11) "Recent"
from
    nr_log_alarm X1,
    nr_orgs X2,
    nr_sigs X3
where
    X1.event_date_local > to_date('&2','YYYY/MM/DD')
    and X1.org_id = X2.org_num
    and X1.sig_name = X3.sig_name
    and X2.org_name like '&1'
group by
    X2.org_name,
    X1.event_level,
    X1.from_state,
    X1.to_state,
    X3.sig_name
order by
    1 asc,
    2 desc,
    3 desc,
    4 asc,
    6 desc
;
```

```

                                event3
-- event3.sql
-- shows: alarm signature with string data summary

--arg1: org_name
--arg2: min_event_date
--arg3: max_event_date

--sel1: org_name
--sel2: event_level
--sel3: from_state
--sel4: to_state
--sel5: sig_name
--sel6: data_alarm
--sel7: count
--sel8: max(event_date_local)

@common

prompt event3: alarm signature with string data summary
prompt organization = &1
prompt minimum_event_date = &2

select
    substr(X2.org_name,1,10) "Org Name",
    substr(ltrim(to_char(X1.event_level)),1,1) "Level",
    substr(decode(X1.from_state,'I','IN','O','OUT'),1,3) "From",
    substr(decode(X1.to_state,'I','IN','O','OUT'),1,3) "To",
    substr(X3.sig_name,1,12) "Signature",
    substr(X1.data_alarm,1,20) "Sig Data",
    count(*) "Count",
    substr(to_char(max(event_date_local),'MM:DD HH24:MI'),1,11) "Recent"
from
    nr_log_alarm X1,
    nr_orgs X2,
    nr_sigs X3
where
    X1.event_date_local > to_date('&2','YYYY/MM/DD')
    and X1.org_id = X2.org_num
    and X1.ip_signature = X3.sig_num
    and X2.org_name like '&1'
group by
    X2.org_name,
    X1.event_level,
    X1.from_state,
    X1.to_state,
    X3.sig_name,
    X1.data_alarm
order by
    1 asc,
    2 desc,
    3 desc,
    4 asc,
    7 desc
;

```

```
event_help
prompt These queries summarize NSX alarms with a primary focus
prompt on the EVENT dimension.
prompt
prompt You can filter the data returned to you with the following
prompt criterion:
prompt
prompt ORGANIZATION_NAME
prompt MIN_EVENT_DATE
--prompt MIN_EVENT_COUNT, MAX_EVENT_COUNT
```

```

                                space
prompt SPACE DIMENSION QUERIES
prompt =====
prompt
prompt 1   source signature summary
prompt 2   destination signature summary
prompt 3   connection signature summary
prompt 4   connection signature with string data summary

@space_help
@datatypes

prompt
prompt Please enter your desired value in the following prompts:
prompt
accept WHAT_Q prompt 'select query (1,2,3,4)>'
accept ORGANIZATION_NAME prompt 'organization name (%)>'
accept MIN_EVENT_DATE prompt 'minimum event date (MM/DD)>'
accept SRC_IP_ADDRESS prompt 'source ip address (%)>'
accept DST_IP_ADDRESS prompt 'destination ip address (%)>'

@space&WHAT_Q &ORGANIZATION_NAME 1997/&MIN_EVENT_DATE &SRC_IP_ADDRESS
&DST_IP_ADDRESS
```



```

                                space1
-- space1.sql
-- shows: source signature summary

--arg1: org_name
--arg2: min_event_date
--arg3: src address
--arg4: dst address
--arg5: signature
--arg6: string data
--arg7: max_event_date

--sel1: org_name
--sel2: src_ip_addr
--sel3: sig_name
--sel4: count
--sel5: max(event_date_local)

@common

prompt space1: source signature summary
prompt organization = &1
prompt minimum_event_date = &2
prompt src_ip_address = &3
prompt dst_ip_address = &4

select
    substr(X2.org_name,1,10) "OrgName",
    substr(X1.src_ip_addr,1,15) "Source",
    substr(X3.sig_name,1,15) "Signature",
    count(*) "Count",
    substr(to_char(max(event_date_local),'MM/DD HH24:MI'),1,11) "Recent"
from
    nr_log_alarm X1,
    nr_orgs X2,
    nr_sigs X3
where
    X1.event_date_local > to_date('&2','YYYY/MM/DD')
    and X1.org_id = X2.org_num
    and X1.ip_signature = X3.sig_num
    and X2.org_name like '&1'
    and X1.src_ip_addr like '&3%'
    and X1.dst_ip_addr like '&4%'
group by
    X2.org_name,
    X1.src_ip_addr,
    X3.sig_name
order by
    1 asc,
    3 asc,
    4 desc
;

```

```

                                space2
-- space2.sql
-- shows: destination signature summary

--arg1: org_name
--arg2: min_event_date
--arg3: src address
--arg4: dst address
--arg5: signature
--arg6: string data
--arg7: max_event_date

--sel1: org_name
--sel2: src_ip_addr
--sel3: sig_name
--sel4: count
--sel5: max(event_date_local)

@common

prompt space2: destination signature summary
prompt organization = &1
prompt minimum_event_date = &2
prompt src_ip_address = &3
prompt dst_ip_address = &4

select
    substr(X2.org_name,1,10) "Org Name",
    substr(X1.dst_ip_addr,1,15) "Destination",
    substr(X3.sig_name,1,15) "Signature",
    count(*) "Count",
    substr(to_char(max(event_date_local),'MM/DD HH24:MI'),1,11) "Recent"
from
    nr_log_alarm X1,
    nr_orgs X2,
    nr_sigs X3
where
    X1.event_date_local > to_date('&2','YYYY/MM/DD')
    and X1.org_id = X2.org_num
    and X1.ip_signature = X3.sig_num
    and X2.org_name like '&1'
    and X1.src_ip_addr like '&3%'
    and X1.dst_ip_addr like '&4%'
group by
    X2.org_name,
    X1.dst_ip_addr,
    X3.sig_name
order by
    1 asc,
    3 asc,
    4 desc
;

```

```

                                space3
-- space3.sql
-- shows: connection signature summary

--arg1: org_name
--arg2: min_event_date
--arg3: src address
--arg4: dst address
--arg5: signature
--arg6: string data
--arg7: max_event_date

--sel1: org_name
--sel2: src_ip_addr
--sel3: dst_ip_addr
--sel4: sig_name
--sel5: count
--sel6: max(event_date_local)

@common

prompt space3: connection signature summary
prompt organization = &1
prompt minimum_event_date = &2
prompt src_ip_address = &3
prompt dst_ip_address = &4

select
    substr(X2.org_name,1,10) "Org Name",
    substr(X1.src_ip_addr,1,15) "Source",
    substr(X1.dst_ip_addr,1,15) "Destination",
    substr(X3.sig_name,1,15) "Signature",
    count(*) "Count",
    substr(to_char(max(event_date_local), 'MM/DD.HH24'),1,8) "Recent"
from
    nr_log_alarm X1,
    nr_orgs X2,
    nr_sigs X3
where
    X1.event_date_local > to_date('&2', 'YYYY/MM/DD')
    and X1.org_id = X2.org_num
    and X1.ip_signature = X3.sig_num
    and X2.org_name like '&1'
    and X1.src_ip_addr like '&3%'
    and X1.dst_ip_addr like '&4%'
group by
    X2.org_name,
    X1.src_ip_addr,
    X1.dst_ip_addr,
    X3.sig_name
order by
    1 asc,
    4 asc,
    5 desc
;

```

```

                                space4
-- space4.sql
-- shows: connection signature with string data summary

--arg1: org_name
--arg2: min_event_date
--arg3: src address
--arg4: dst address
--arg5: signature
--arg6: string data
--arg7: max_event_date

--sel1: org_name
--sel2: src_ip_addr
--sel3: dst_ip_addr
--sel4: sig_name
--sel5: data_alarm
--sel6: count
--sel7: max(event_date_local)

@common

prompt space4: connection signature with string data summary
prompt organization = &1
prompt minimum_event_date = &2
prompt src_ip_address = &3
prompt dst_ip_address = &4

select
    substr(x2.org_name,1,10) "Org Name",
    substr(x1.src_ip_addr,1,15) "Source",
    substr(x1.dst_ip_addr,1,15) "Destination",
    substr(x3.sig_name,1,15) "Signature",
    count(*) "Count",
    substr(to_char(max(event_date_local),'MM/DD.HH24'),1,8) "Recent",
    substr(x1.data_alarm,1,64) "Signature Data"
from
    nr_orgs x2,
    nr_sigs x3,
    nr_log_alarm x1
where
    x1.event_date_local > to_date('&2','YYYY/MM/DD')
    and x1.org_id = x2.org_num
    and x1.ip_signature = x3.sig_num
    and x2.org_name like '&1'
    and x1.src_ip_addr like '&3%'
    and x1.dst_ip_addr like '&4%'
group by
    x2.org_name,
    x1.src_ip_addr,
    x1.dst_ip_addr,
    x3.sig_name,
    x1.data_alarm
order by
    1 asc,
    4 asc,
    5 asc,
    6 desc
;

```

```
                                space_help
prompt These queries summarize NSX alarms with a primary focus
prompt on the SPACE dimension.
prompt
prompt You can filter the data returned to you with the following
prompt criterion:
prompt
prompt ORGANIZATION_NAME
prompt MIN_EVENT_DATE
--prompt MAX_EVENT_DATE
prompt SRC_IP_ADDRESS
prompt DST_IP_ADDRESS
--prompt MIN_EVENT_COUNT, MAX_EVENT_COUNT
```

```
                                system
prompt SYSTEM QUERIES
prompt =====
prompt 1    age and count of records in each table
prompt 2    signature: name-number (interactive only)
prompt 3    organization: name-number (interactive only)
--prompt 4    commands
--prompt 5    errors
prompt
accept WHAT_Q prompt 'select query (1,2,3,4,5)>'
@system&WHAT_Q
```

system1

-- system1

@common

prompt system1: count and age of data in each table

-- nr_log_alarm

```
select
    count (*) "LOG_ALARM - count",
    substr(to_char(min(event_date_gmt), 'YYYY/MM/DD HH24:MI'), 1, 17) "Min Date
(gmt)",
    substr(to_char(max(event_date_gmt), 'YYYY/MM/DD HH24:MI'), 1, 17) "Max Date
(gmt)"
from nr_log_alarm;
```

-- nr_log_command

```
select
    count (*) "LOG_COMMAND - count",
    substr(to_char(min(event_date_gmt), 'YYYY/MM/DD HH24:MI'), 1, 17) "Min Date
(gmt)",
    substr(to_char(max(event_date_gmt), 'YYYY/MM/DD HH24:MI'), 1, 17) "Max Date
(gmt)"
from nr_log_command;
```

-- nr_log_error

```
select
    count (*) "LOG_ERROR - count",
    substr(to_char(min(event_date_gmt), 'YYYY/MM/DD HH24:MI'), 1, 17) "Min Date
(gmt)",
    substr(to_char(max(event_date_gmt), 'YYYY/MM/DD HH24:MI'), 1, 17) "Max Date
(gmt)"
from nr_log_error;
```

-- nr_log_context

```
select
    count (*) "LOG_CONTEXT - count",
    substr(to_char(min(event_date_gmt), 'YYYY/MM/DD HH24:MI'), 1, 17) "Min Date
(gmt)",
    substr(to_char(max(event_date_gmt), 'YYYY/MM/DD HH24:MI'), 1, 17) "Max Date
(gmt)"
from nr_log_context;
```

-- nr_log_tcpconn

```
select
    count (*) "LOG_TCPCONN - count",
    substr(to_char(min(event_date_gmt), 'YYYY/MM/DD HH24:MI'), 1, 17) "Min Date
(gmt)",
    substr(to_char(max(event_date_gmt), 'YYYY/MM/DD HH24:MI'), 1, 17) "Max Date
(gmt)"
from nr_log_tcpconn;
```

-- nr_log_alarm_1

```
select
    count (*) "LOG_ALARM_1 - count",
    substr(to_char(min(event_date_gmt), 'YYYY/MM/DD HH24:MI'), 1, 17) "Min Date
(gmt)",
    substr(to_char(max(event_date_gmt), 'YYYY/MM/DD HH24:MI'), 1, 17) "Max Date
(gmt)"
from nr_log_alarm_1;
```

```
                                system2
-- system2.sql

prompt system2: signature name-number mapping
prompt
accept zsignature prompt 'signature name (optional)>'

@common

select
  sig_num "SIG NUM",
  substr(sig_name,1,40) "SIG NAME"
from
  nr_sigs
where
  sig_name like '%&zsignature%';
```



```
                                system3
-- system3.sql

prompt system3: organization name-number mapping
prompt
accept zorgname prompt 'organization name (optional)>'

@common

select
  org_num "ORG NUM",
  substr(org_name,1,40) "ORG NAME"
from
  nr_orgs
where
  org_name like '%&zorgname%';
```

```

                                time
prompt TIME DIMENSION QUERIES
prompt =====
prompt
prompt 1  timeview signature summary
prompt 2  timeview source signature summary
prompt 3  timeview destination signature summary
prompt 4  timeview connection signature with string data summary

@time_help
@datatypes

prompt
prompt Please enter your desired value in the following prompts:
prompt
accept WHAT_Q prompt 'select query (1,2,3,4)>'
accept WHAT_TIMEVIEW prompt 'time focus level (1,2,3,4)>'
accept ORGANIZATION_NAME prompt 'organization name (%)>'
accept MIN_EVENT_DATE prompt 'minimum event date (MM/DD)>'
accept SRC_IP_ADDRESS prompt 'source ip address (%)>'
accept DST_IP_ADDRESS prompt 'destination ip address (%)>'

@time&WHAT_Q &WHAT_TIMEVIEW &ORGANIZATION_NAME 1997/&MIN_EVENT_DATE &SRC_IP_ADDRESS
&DST_IP_ADDRESS

```

```

time1
-- time1.sql
-- shows: timeview signature summary

--arg1: selected time view
--arg2: org_name
--arg3: min_event_date
--arg4: src address
--arg5: dst address
--arg6: signature
--arg7: string data
--arg8: max_event_date

--sel1: timeview date string
--sel2: org_name
--sel3: sig_name
--sel4: count

@common

prompt time1: timeview signature summary
prompt timeview = &1
prompt organization = &2
prompt minimum_event_date = &3
prompt src_ip_address = &4
prompt dst_ip_address = &5

select
    X1.datezoomTZ "TimeView",
    substr(X2.org_name,1,15) "Org Name",
    substr(X3.sig_name,1,15) "Signature",
    count(*) "Count"
from
    nr_zoomtime_&1 X1,
    nr_orgs X2,
    nr_sigs X3
where
    X1.event_date_local > to_date('&3','YYYY/MM/DD')
    and X1.org_id = X2.org_num
    and X1.ip_signature = X3.sig_num
    and X2.org_name like '&2'
    and X1.src_ip_addr like '&4%'
    and X1.dst_ip_addr like '&5%'
group by
    X1.datezoomTZ,
    X2.org_name,
    X3.sig_name
order by
    1 asc,
    2 asc,
    4 desc ;

```

```

                                time2
-- time2.sql
-- shows: timeview source signature summary

--arg1: selected time view
--arg2: org_name
--arg3: min_event_date
--arg4: src address
--arg5: dst address
--arg6: signature
--arg7: string data
--arg8: max_event_date

--sel1: timeview date string
--sel2: org_name
--sel3: src_ip_addr
--sel4: sig_name
--sel5: count

@common

prompt time2: timeview source signature summary
prompt timeview = &1
prompt organization = &2
prompt minimum_event_date = &3
prompt src_ip_address = &4
prompt dst_ip_address = &5

select
    X1.datezoomTZ "TimeView",
    substr(X2.org_name,1,15) "Org Name",
    substr(X1.src_ip_addr,1,15) "Destination",
    substr(X3.sig_name,1,15) "Signature",
    count(*) "Count"
from
    nr_zoomtime_&1 X1,
    nr_orgs X2,
    nr_sigs X3
where
    X1.event_date_local > to_date('&3','YYYY/MM/DD')
    and X1.org_id = X2.org_num
    and X1.ip_signature = X3.sig_num
    and X2.org_name like '&2'
    and X1.src_ip_addr like '&4%'
    and X1.dst_ip_addr like '&5%'
group by
    X1.datezoomTZ,
    X2.org_name,
    X1.src_ip_addr,
    X3.sig_name
order by
    1 asc,
    2 asc,
    4 asc,
    5 desc
;

```

```

                                time3
-- time3.sql
-- shows: timeview destination signature summary

--arg1: selected time view
--arg2: org_name
--arg3: min_event_date
--arg4: src address
--arg5: dst address
--arg6: signature
--arg7: string data
--arg8: max_event_date

--sel1: timeview date string
--sel2: org_name
--sel3: dst_ip_addr
--sel4: sig_name
--sel5: count

@common

prompt time3: timeview destination signature summary
prompt timeview = &1
prompt organization = &2
prompt minimum_event_date = &3
prompt src_ip_address = &4
prompt dst_ip_address = &5

select
    X1.datezoomTZ "TimeView",
    substr(X2.org_name,1,15) "Org Name",
    substr(X1.dst_ip_addr,1,15) "Destination",
    substr(X3.sig_name,1,15) "Signature",
    count(*) "Count"
from
    nr_zoomtime_&1 X1,
    nr_orgs X2,
    nr_sigs X3
where
    X1.event_date_local > to_date('&3','YYYY/MM/DD')
    and X1.org_id = X2.org_num
    and X1.ip_signature = X3.sig_num
    and X2.org_name like '&2'
    and X1.src_ip_addr like '&4%'
    and X1.dst_ip_addr like '&5%'
group by
    X1.datezoomTZ,
    X2.org_name,
    X1.dst_ip_addr,
    X3.sig_name
order by
    1 asc,
    2 asc,
    4 asc,
    5 desc
;

```

```

                                time4
-- time4.sql
-- shows: timeview connection signatures with string data summary

--arg1: selected time view
--arg2: org_name
--arg3: min_event_date
--arg4: src address
--arg5: dst address
--arg6: signature
--arg7: string data
--arg8: max_event_date

--sel1: timeview date string
--sel2: org_name
--sel3: src_ip_addr
--sel4: dst_ip_addr
--sel5: sig_name
--sel6: data_alarm
--sel7: count

@common

prompt time4: timeview connection signature with string data summary
prompt timeview = &1
prompt organization = &2
prompt minimum_event_date = &3
prompt src_ip_address = &4
prompt dst_ip_address = &5

select
    X1.datezoomTZ "TimeView",
    substr(X2.org_name,1,15) "Org Name",
    substr(X1.src_ip_addr,1,15) "Source",
    substr(X1.dst_ip_addr,1,15) "Destination",
    substr(X3.sig_name,1,15) "Signature",
    substr(X1.data_alarm,1,20) "Sig Data",
    count(*) "Count"
from
    nr_zoomtime_&1 X1,
    nr_orgs X2,
    nr_sigs X3
where
    X1.event_date_local > to_date('&3','YYYY/MM/DD')
    and X1.org_id = X2.org_num
    and X1.ip_signature = X3.sig_num
    and X2.org_name like '&2'
    and X1.src_ip_addr like '&4%'
    and X1.dst_ip_addr like '&5%'
group by
    X1.datezoomTZ,
    X2.org_name,
    X1.src_ip_addr,
    X1.dst_ip_addr,
    X3.sig_name,
    X1.data_alarm
order by
    1 asc,
    2 asc,
    5 asc,
    7 desc
;

```

```
                                time_help
prompt These queries summarize NSX alarms with a primary focus
prompt on the TIME dimension.
prompt
prompt You can filter the data returned to you with the following
prompt criterion:
prompt
prompt TIMEVIEW
prompt * 1 = Monthly
prompt * 2 = Daily
prompt * 3 = Hourly
prompt * 4 = Sixthly
prompt
prompt ORGANIZATION_NAME
prompt MIN_EVENT_DATE
--prompt MAX_EVENT_DATE
prompt SRC_IP_ADDRESS
prompt DST_IP_ADDRESS
--prompt MIN_EVENT_COUNT, MAX_EVENT_COUNT
```